

GENTLE, FAST AND EXTREMELY VERSATILE

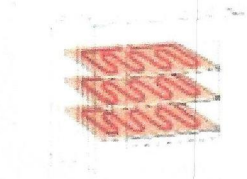
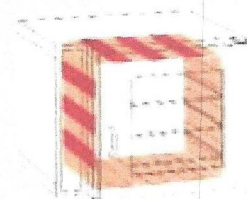
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A well thought-out concept – Heraeus® vacutherm® VT 6060 and VT 6130



MODEL M, JACKET HEATING

- Rated temperature of 200 °C
- The large direct contact heating elements are reinforced at the front and therefore compensate natural loss



MODEL P, SHELF HEATING

- Rated temperature of 300/400 °C
- Rapid heating-up times
- Direct heat transfer ensures short process times
- Separate temperature control and overtemperature protection for each shelf

Features

- **Modular design**
- **Two types of heating**
- **Temperatures to 200, 300 and 400 °C**
- **Total volumes of 53 and 128 l**

Standard features

- User friendly Kelvitron® t micro-processor controller for jacket heated ovens and Digicon® multi-channel Controller for shelf heated ovens
- Upper limit cut-out for oven and product protection
- Certified safety (GS-mark)
- Vacuum chamber made of stainless steel (1.4571), electropolished, 100 % rounded corners, easy-to-clean and corrosion resistant
- Stainless steel vacuum fittings, tubing and ball valve
- Analogue pressure display
- Rapid ventilation valve for quick ventilation of the chamber
- Additional precision valve for gentle ventilation
- Inert gas connection for controlled atmosphere. A safety valve prevents overpressure inside the vacuum chamber
- DN 25 access port in the rear wall

Two types of heating

The vacutherm® 6000 series is available with two different types of heating:

■ model M, jacket heating:

Heat transfer from the vacuum chamber via the shelves to the load

■ model P, shelf heating:

The shelves incorporate heating coils. Heat is transferred directly to the load.

The benefits of shelf heating

The direct energy transportation ensures rapid heating-up and process times. Drying process times can be reduced as much as 6 fold compared to standard drying methods.

vacutherm® 6000 Order numbers

Type	Total volume	Order no.
VT 6060 M	53 litres, jacket heating	51014539
VT 6130 M	128 litres, jacket heating	51014541
VT 6060 P	53 litres, shelf heating	51014542
VT 6130 P	128 litres, shelf heating	51014543

A SAFE BET

Vacuum Drying Ovens for flammable solvents

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Heraeus® vacutherm® 6000 BL Vacuum Drying Ovens for safe drying of samples that contain flammable solvents offer a unique safety concept that, even in the case of unsupervised operation, provides optimum protection.



VT 6060 BL with shelf heating

Features:

- Rated temperature of 200 °C/300 °C
- TÜV and GS tested
- Total volume of 53 and 128 l (25 l on request)

Additional features

In addition to the standard version described before all ovens also feature a forced release of inertgas system which, in the event of a leakage, prevents the formation of explosive mixtures inside the vacuum chamber. Furthermore the heating elements are only activated once the pressure inside the vacuum chamber is below 80 mbar.

Safety concept

- Meets the requirements of Explosion Protection Guidelines
- Pressure related activation of the heating elements
- Precision control valve allows inert gas operation
- Forced release of inertgas in case of an accidental increase in pressure

Safe, user friendly operation

The VT 6000 BL's safety concept has no limitations to working temperatures. Elaborate calculations of working temperature – due to the composition of solvents are therefore not required.

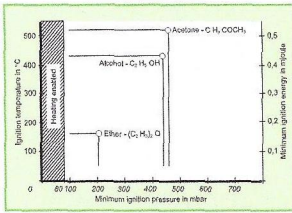
Technical data

The vacutherm® 6000 BL technical data are identical to those of the vacutherm® 6000 series, see table on page 6.

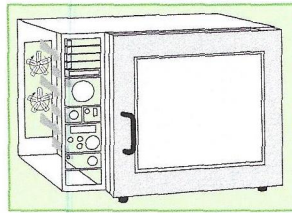
TECHNICAL FEATURES

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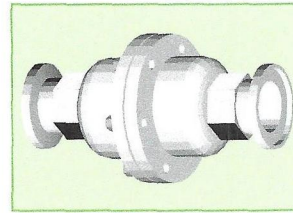
vacuotherm® 6000 BL: safety first



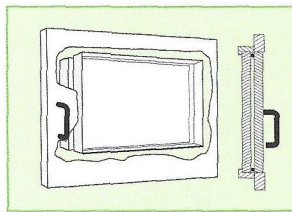
Pressure related activation of heating at < 80 mbar. Forced release of inert gas of the vacuum chamber in the case of accidental increase of pressure above 130 mbar.



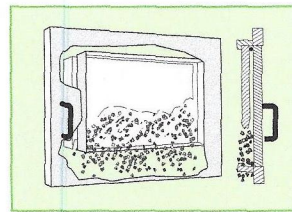
Permanent ventilation of the control panel area through two independently operating fans, to prevent solvent leakage. There is no need of permanent feed with gas.



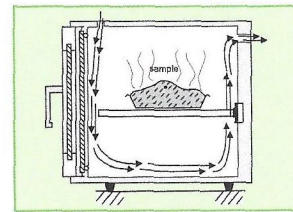
The optional flame filter prevents the spread of flames to protect the vacuum oven from sources of ignition. The flame filter is recommended for applications with solvents with ignition temperatures of < 21 °C.



Double pane door made of safety glass.



Tested implosion protection of the double pane sliding door, in accordance with GS approval.



Inert gas connection for gentle ventilation and for operation with process gases.

vacuotherm® 6000 BL Order Numbers

Units		Order no.
VT 6060 M-BL	230 V ~, 50/60 Hz, jacket heating, 200 °C, 53 l	51014546
VT 6130 M-BL	230 V ~, 50/60 Hz, jacket heating, 200 °C, 128 l	51014547
VT 6060 P-BL	230 V ~, 50/60 Hz, shelf heating, 300 °C, 53 l	51014548
VT 6130 P-BL	230 V ~, 50/60 Hz, shelf heating, 300 °C, 128 l	51014549

Options		Order no.
Calibration Certificate	Certificate of calibration for 150 °C at centre of the vacuum chamber	50044187
	Calibration at an additional measuring point (max. 2)	50044188

Accessories		Order no.
Flame filter		50042626
Support frame, 780 mm height	for VT 6060 M/P-BL	50029890
	for VT 6130 M/P-BL	50029597
Additional shelves	including shelf supports	
	for VT 6060 M-BL	50043975
	for VT 6130 M-BL	50043976
Tray	for VT 6060 M-BL made of stainless steel	50048621
	for VT 6060 M-BL made of aluminium	50048620
	for VT 6130 M-BL made of stainless steel	50048619
	for VT 6130 M-BL made of aluminium	50048618
Stainless steel vacuum connection kit for tubing with a diameter of 10 mm		50048660
HMD 4C diaphragm pump		50028362

Heraeus Vacutherm Series



Technical Specifications

Standard models		Jacket heating		Shelf heating		Compact model
		VT 6060 M	VT 6130 M	VT 6060 P	VT 6130 P	VT 6025
Total volume	L	53	128	53	128	25
Dimensions (w x h x d)						
Internal dimensions	mm	415x345x371	495x489x529	415x-x371	495x-x592	300x275x307
	inch	16.3x13.6x14.6	19.5x19.3x20.8	16.3x-x14.6	19.5x-x23.3	11.8x10.8x12.1
External dimensions ¹⁾	mm	744x576x570	895x720x750	744x576x570	895x720x750	480x600x450
	inch	29.3x22.7x22.4	35.2x28.3x29.5	29.3x22.7x22.4	35.2x28.3x29.5	18.9x23.6x17.7
Shelves (standard/max.)	no	2/4	3/5	2/2	3/3	2/4
Usable area (w/d)	mm	400/312	480/470	400/297	465/417	270/250
	inch	15.7/12.3	18.9/18.5	15.7/11.7	18.3/16.4	10.6/9.8
Temperature ²⁾						
Rated temperature ³⁾	°C	200	200	300/400	300/400	200
Spatial temperature deviation ⁴⁾ at 200/300/400 °C	± °C	± 4/-/-	± 6/-/-	± 3/± 7/± 9	± 4/± 7/± 9	± 4/-/-
Electrical protection						
Protection class/Protection type		I/IP 20	I/IP 20	I/IP 20	I/IP 20	I/IP 20
Vacuum						
Vacuum connection with tube shaft Ø 20 mm	DN	25	25	25	25	25
Measuring connection	DN	25	25	25	25	25
Max. final vacuum	mbar (hPa)	1 x 10 ⁻²	1 x 10 ⁻²	1 x 10 ⁻²	1 x 10 ⁻²	1 x 10 ⁻²
Weight (empty)	kg	82	153	90	164	58
	lbs.	180.8	337.3	198.4	361.5	127.8
Permissible total load	kg	40	60	40	60	40
	lbs.	88.2	132.3	88.2	132.3	88.2
Max. load of shelf ⁵⁾	kg	20	20	20	20	20
	lbs.	44.1	44.1	44.1	44.1	44.1
Electrical input power						
Voltage ⁶⁾	V-(50/60 Hz)	230 ± 10 %	230 ± 10 %	230 ± 10 %	230 ± 10 %	230 ± 10 %
Power	kW	1.7	2.2	1.6	3.0	1.3
Heat transfer to environment at 200 °C/300 °C	Wh/h	550/-	870/-	-/450	-/880	340/-

¹⁾ Depth without handle and wall distance. Dimensions: handle 70 mm, wall distance 80 mm ²⁾ The values stated apply to the empty oven and vacuum operation in acc. with DIN 12880, part 2)

³⁾ Control range M: electronic controller from T_a + 15 °C; control range P: electronic controller from T_a + 10 °C; T_a = Ambient temperature ⁴⁾ Measured on the shelves ⁵⁾ Distributed load

⁶⁾ Other voltages on request

Ordering Information

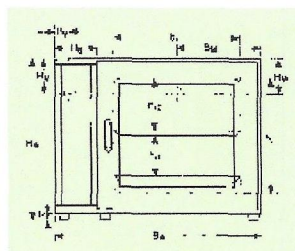
Standard models		Jacket heating		Shelf heating		
		VT 6060 M	VT 6130 M	VT 6060 P	VT 6130 P	
Total volume	L	53	128	53	128	
Order no.		51014539	510114541	510114542	510114543	
Accessories for Vacutherm 6000		VT 6060 M/P		VT 6130 M/P		
Support frame, 780 mm height		50029890		50029597		
Additional shelves including shelf supports		50043975		50043976		
Tray made of stainless steel		50048621		50048619		
Tray made of aluminium steel		50048620		50048618		
Stainless steel vacuum connection kit for tubing with a diameter of 10 mm (all models)						50046860

¹⁾ All Heraeus pumps are equipped with the necessary components for connection to Heraeus Vacuum Ovens

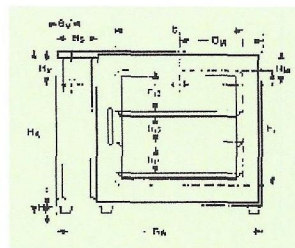
VACUTHERM® 6000 TECHNICAL DATA

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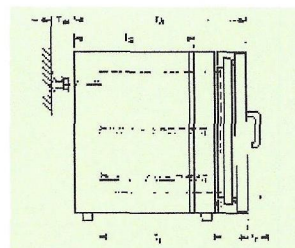
Dimensions



Front view
of model VT 6060



Front view
of model VT 6130



Side view
of models VT 6060 and VT 6130

vacutherm® 6000			jacket heating		shelf heating		
			VT 6060 M	VT 6130 M	VT 6060 P	VT 6130 P	
Total volume	l		53	128	53	128	
Internal dimensions	mm	b _i	415	495	415	495	
		h _i	345	489	–	–	
		t _i	371	529	371	529	
		h _{i1}	124	124	119	119	
		h _{i2}	155	124	140	119	
		h _{i3}	–	158	–	146	
Vacuum suction sockets	mm	B _V	53	53	53	53	
		H _V	132	132	132	132	
Vacuum measuring sockets	mm	H _M	132	132	132	132	
		B _M	298	373	298	373	
External dimensions	mm	B _A	744	895	744	895	
		H _A	576	720	576	720	
		T _A	570	750	570	750	
	Feet height		H _F	24	24	24	24
	Door handle depth		T _T	60	60	60	60
	Control box width		B _S	149	149	149	149
Control box depth		T _S	400	580	400	580	
Distance for options		T _W	80	80	80	80	
T _W with inert gas connection		T _{W Inert}	160	160	160	160	
T _W with models for flammable solvents		T _{W BL}	160	160	160	160	
Temperature¹⁾							
Rated temperature ¹⁾	°C		200	200	300/400	300/400	
Spatial temperature deviation ²⁾							
at 200 °C	± °C		± 4	± 6	± 3	± 4	
at 300 °C	± °C		–	–	± 6	± 6	
at 400 °C	± °C		–	–	± 7	± 7	
Temperature deviation							
in time with electronic controllers	°C		≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	
Heating-up time to 98 % of ¹⁾³⁾							
200 °C	min		75	140	25	25	
300 °C	min		–	–	35	40	
400 °C	min		–	–	50	60	
Electrical protection							
Protection class			I	I	I	I	
Protection type			IP 20	IP 20	IP 20	IP 20	
Vacuum							
Vacuum connection with tube shaft Ø 20 mm	DN		25	25	25	25	
Measuring connection	DN		25	25	25	25	
Max. final vacuum	mbar (hPa)		1x10 ⁻²	1x10 ⁻²	1x10 ⁻²	1x10 ⁻²	
Leak rate	$\frac{\text{mbar} \times \text{l}}{\text{s}}$		<1x10 ⁻²	<1x10 ⁻²	<1x10 ⁻²	<1x10 ⁻²	
Shelves							
no. (max.)			2 (4)	3 (5)	2 (2)	3 (3)	
Usable area	mm W/D		400/312	480/470	400/297	465/417	
Weight (empty)							
Permissible total load	kg		40	60	40	60	
Max. load of shelf ⁴⁾	kg		20	20	20	20	
Electrical input power							
Voltage ⁵⁾	V~(50/60 Hz)		230±10%	230±10%	230±10%	230±10%	
Power	kW		1.7	2.2	1.6	3.0	
Heat transfer to environment							
at 200 °C	Wh/h ⁶⁾		550	870	–	–	
at 300 °C	Wh/h ⁶⁾		–	–	450	880	

¹⁾ The values stated apply to the empty oven and vacuum operation in acc. with DIN 12880, part 2)

²⁾ Control range M: electronic controller from T_A + 15 °C; control range P: electronic controller from T_A + 10 °C; T_A = Ambient temperature

³⁾ Measured on the shelves

⁴⁾ Distributed load

⁵⁾ Other voltages on request

⁶⁾ In line with heat transfer to the environment